Attendees

Committee Chairs: Anne Carroll (DCR), Jack Buckley (FWE), Martin Suuberg (DEP)
Committee Members: Ralph Abele (EPA), Sue Beede (Mass Rivers Alliance), Alison Bowden for Colin Apse (Nature Conservancy), Doug DeNatale (AECOM), Mike Domenica (CH2M Hill), Eric Hooper (Town of Sharon), David Kaplan (City of Cambridge), John Kastrinos (Haley & Aldrich), Kerry Mackin (Ipswich River Watershed Association), Cary Parsons (Woodard & Curran), Nigel Pickering (Charles River Watershed Association), Chris Waldron for Peter Weiskel (USGS); Brian Wick (Cape Cod Cranberry Growers' Association), Vicki Zoltay (ABT Assoc.)
Other Attendees: Kathy Baskin (EEA), John Clarkeson (EEA), Sara Cohen (DCR), Karen Crocker (DEP), Rebecca Cutting (DEP), Jeff Davis (UMass Donahue Institute), Jen D'Urso (DEP), Neil Fennessey (UMass Dartmouth), Richard Friend (DEP), Bill Hinckley (MA Environmental Trust), Linda Hutchins (DCR), Steve Kaiser (Assoc. of Cambridge Neighborhoods), Paul Lauenstein (NepRWA), Tom Lamonte (DEP), Duane LeVangie (DEP), Beth McCann (DEP), Jennifer Pederson (MWWA), John Pike (CLF), Tim Purinton (FWE), Vandana Rao (EEA), Heidi Ricci (MA Audubon), Todd Richards (FWE), Mark Tisa (FWE), Margaret Van Deusen (Charles River Watershed Assoc.), Jonathan Yeo (DCR)

February 1 Meeting Objective

- Introduction and discussion of SWMI Overview Flow Chart
- Present draft results from water supply metrics mapping for comment
- Present 2nd draft of streamflow criteria and first draft of "no backsliding recommendations" for comment
- Present first draft of a surface water metric to help describe existing conditions

Meeting Agenda

1. **Welcome & Introductions**
   The moderator reminder the group that we are now getting to the (devil in the) details
   When discussing the materials:
   - Be clear about your ideas and the underlying information - Avoid assumptions
   - Suggest upgrades and ideas to improve the presented materials – Avoid ultimatums
   - Do not balkanize the discussions – avoid "you people"

2. **SWMI Overview Flow Chart**
   Water Resource Low Criteria and Implementation – Conceptual Framework presented by Tom Lamonte
   www.mass.gov/Eoeea/docs/eea/water/2011_Feb_1_streamflow_Framework.pdf

   The framework:
   1. "where we are" using data from a variety of sources,
   2. the statewide and tiered goals we hope to achieve,
   3. streamflow criteria that provide additional tools manage water resources in a sustainable manner and to protect the ecological condition in Massachusetts, and
   4. the EEA programs that can implement

   Discussion:
   Water supply concerns:
   - Does backsliding apply to water supply areas as well as ecological categories?
   - How will cold water fisheries relate to water supplies, will fisheries drive pumping restrictions?
   - Are private wells included?
     - Private wells and septic returns are in the MA Indicators data used to develop the biological model

   Ecological concerns:

- Meaning of "Maintain" as a Framework Goal needs clarification – does it mean "do not harm", "protect", "status quo", "get water in the least harmful manner"
  - **NOTE** – Advisory Committee should consider the policy implication of this wording
- Should include anadromous fisheries under "existing conditions"
  - Anadromous fisheries overlay would be a very large overlay
  - There were calls for overlays for anadromous fish, ORW's, various types of habitat, etc. – but decision was made to keep framework for existing conditions simple and address other issues through the criteria

Implementation concerns:

- The framework needs to include economic analysis /cost effectiveness analysis – some members emphasized the need for benefits to justify costs given constrained budgets, others emphasize the need for effective environmental protection
  - What mitigation measure will be most effective
  - What will it cost to manage water supplies to meet permitting criteria
  - What changes in fees and rate structures will drive changes in behavior
  - Could economic growth be impacted by cost of implementation
- What is a Rebuttal Presumption?
  The framework is based on broad screening models. For regulatory purposes, we will consider the model to be correct, but if an applicant has site specific data that rebuts or changes the model, we will review and consider the information
  - Alternative wording was put forward : "**Option for Site Specific Analysis**"

3. **Water Supply Metrics workgroup report** presented by Anne Carroll

At present: 12% of subbasins support water supplies over .1 mgd
11% of subbasins support water supplies between .1-.01 mgd

Potential areas for future water supply development have been mapped by:
Mapping all high and medium yield aquifers in Massachusetts
Overlaying all existing land uses prohibited within 400 feet of a water supply

Conclusions:

- There are very few potential water supply sites left when prohibited land uses are considered
- Recharge areas for many current and potential water supply sites lie under prohibited land uses that could impact water quality and the need for treatment

4. **Draft Streamflow Criteria**

Streamflow Criteria and Recommendations to Prevent Backsliding presented by Todd Richards
http://www.mass.gov/Eoeea/docs/eea/water/2011_Feb_01_TECH_Criteria_Richards.pdf

The framework:

1. How do we incorporate seasonality into the framework?
2. How do we take vast and confusing data and turn it into an implementable system?
3. How do we address "backsliding" between streamflow and biological categories?

These draft streamflow criteria outline the maximum amount of alteration which would be allowed in relation to the current streamflow and biological categories. The alterations maintain a consistency with the findings of the USGS Fish and Habitat Study and support the notion of "no backsliding".

The seasonal percentages are designed to give a margin to manage water withdrawals from the pinch point between ecology and demand in August. Withdrawals could be moved to relatively less impacted times of year.

Table 1: Draft Streamflow Criteria

		Percent of subbasins currently in each flow level		% allowable alteration of unimpacted median flow			
August Alteration	Flow Level	Small subbasin scale	HUC-12 scale	AUG	OCT	JAN	APRIL
0 to 5%	1	56%	53%	<5%	5%	5%	5%
5 to 15%	2	17%	19%	<15%	5%	5%	5%
15 to 35%	3	13%	16%	<35%	15%	15%	15%
35 to 65%	4 a, b, c	6%	8%	Feasible mitigation and improvement			
65 to 100%	5a, b, c	8%	4%				

Table 2: Draft "no backsliding" Recommendations

	Recommendations to prevent backsliding	
Biological Category	Maintain % alteration	Stay within biological category & flow level or improve
1	x	
2		x
3		x
4		x
5		x

Discussion:

Water Supply concerns:

- Water demand is actually lower during the winter months. Are you suggesting flood skimming and storage? Demand cannot be shifted from August to April, and storage for flood skimming is not a simple matter.
- Can staff present a real world example of how this could play out – Cambridge or Danvers
  - **Staff will prepare examples**
- What are the considerations that would allow moving down a flow or biological category
  - There will be times and places where other (human) needs might outweigh flow and biological considerations – specifics cannot be identified now
- What happens if impervious cover (IC) increases and lowers the biological category of a stream, but a supplier has no control
  - Water use and community needs would be considered at permit review
  - Mitigation measures could be required – eg: stormwater by-laws

Ecological concerns:

- Categories 4 & 5 - Recommendations are inconsistent between Table 1: Draft Streamflow Criteria and Table 2: Draft "no backsliding" Recommendations
  - Table 1 requires feasible mitigation and improvement, Table 2 allows increased impacts within biological category (a category can encompass 20%-30% flow alteration)
  - Committee members recommend that "Feasible mitigation and improvement" should be consistently recommended
- Are we comfortable with 35% alteration allowable in Category 3
  - This is a compromise developed by this group through the SWMI process and we are ready to move forward with it
  - Category 1 is more protective, requires no movement within flow or biological category
  - **Committee member requested a narrative explanation of why 35% is acceptable**
- Biological categories are based on fluvial fish – not whole ecological community – might overstate the problem
  - Fluvial fish have been established as the surrogate for the ecological community during the entire SWMI process and we are ready to move forward with it

- The Streamflow Criteria categories might not correspond to the Clean Water Act framework

Implementation concerns:

- Applying criteria on a small scale leaves little feasible mitigation within the basin, by-lows will only remediate on a larger basin scale
- Is there a problem using a flow model based on acual 2004 flows when use was less than could have been allowed in WMA permits and registrations?
- Criteria should apply to all WMA permits
- One member proposed that criteria need to consider technically feasible mitigation, not economically feasible mitigation
    - **Staff committed to further study of basin scale, mitigation options and potential "off-ramps" for criteria implementation**

5. **Surface Water Metric**

Surface Water Withdrawal Existing Conditions presented by Linda Hutchins
http://www.mass.gov/Eoeea/docs/eea/water/2011_Feb_01_TECH_SurfaceWater_Metric_Preliminary_Hutchins.pdf

Presentation is a preliminary method for incorporating surface water withdrawal impacts into flow and biologic categories

- Annual reported surface water withdrawals would be taken from estimated unimpacted flows

Discussion:

- Can annual withdrawals be accurately taken from seasonal streamflow values
- How does this account for spring pulses in streamflow
- What about required releases
    - There are very few in Massachusetts
- What about habitat and streamflow benefits from watershed protection
- Can we wait for better science

Conclusion:

- SWMI cannot wait for forthcoming science on surface water withdrawals
- We must move forward and be prepared to adapt the SWMI framework at new information becomes available

6. **Wrap-Up & agenda planning for March**

The next Technical Advisory Committee meeting is scheduled for:

Tuesday, March 8th, 10:00 to 1:00
100 Cambridge St, 2nd Floor, Rooms C & D